California Environmental Protection Agency AIR RESOURCES BOARD	John Deere Power Systems	EXECUTIVE ORDER U-R-004-0364 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2009	9JDXL06.8106	4.5, 6.8	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Smoke Puff Limiter	Tractor, Pump, Compressor, Generator Set, Other Industrial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
56 ≤ kW < 75	Tier 3	STD	N/A	N/A	4.7	5.0	0.40	20	15	50
		FEL	N/A	N/A	--	--	0.30	--	--	--
		CERT	--	--	4.1	1.4	0.20	1	2	2

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 12th day of December 2008.

Annette Hebert, Chief
Mobile Source Operations Division

U-R-004-0364

Engine Model Summary Form

Manufacturer: **John Deere Power Systems**
Engine category: **Nonroad CI**
EPA Engine Family: **9JDXL06.8106**
Mfr Family Name: **350HAD**
Process Code: **New Submission**

Attachment p. 1 of 2

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
4045HF285B	4045H 74 kW	99.24@2400	77.90@2400	42.07@2400	339.24@1600	113.9@1600	40.99@1600	EM EC SPL DDI, TC, CAC
4045HL280	4045H	95.22@2300	74.30@2300	38.43@2300	288.35@1600	93.6@1600	33.67@1600	EM EC SPL
4045HL282A	4045H	99.24@2300	80.80@2300	40.13@2300	303.84@1600	105.8@1600	36.38@1600	EM EC SPL
4045HL282B	4045H	95.22@2300	79.20@2300	39.25@2300	289.83@1600	102.9@1600	35.50@1600	EM EC SPL
4045HT054	4045H	99.24@2250	67.80@2250	34.33@2250	258.85@1600	85.7@1600	30.83@1600	EM EC SPL
4045HT059A	4045H 56 kW	75.10@2200	63.10@2200	31.22@2200	233.34@1500	78.3@1500	26.42@1500	EM EC SPL
4045HT059B	4045H	80.47@2200	66.90@2200	33.10@2200	252.22@1500	84.3@1500	28.42@1500	EM EC SPL
4045HT059C	4045H	84.49@2200	66.90@2200	34.57@2200	260.33@1500	87.4@1500	29.50@1500	EM EC SPL
4045HT059D	4045H	88.51@2200	72.40@2200	35.61@2200	274.34@1500	91.4@1500	30.85@1500	EM EC SPL
4045HT059E	4045H	99.24@2200	79.80@2200	39.49@2200	308.26@1500	99.2@1500	33.45@1500	EM EC SPL
4045HT061	4045H	99.24@2000	84.80@2000	38.14@2000	309.44@1500	101.6@1500	34.26@1500	EM EC SPL
4045HT281	4045H	99.24@2400	80.30@2400	41.72@2400	290.57@1600	102.8@1600	35.50@1600	EM EC SPL
4045HLV50	4045H	99.24@2200	78.70@2200	38.94@2200	309.00@1500	100.5@1500	33.89@1500	EM EC SPL
4045HL284	4045H	99.24@2300	79.60@2300	39.47@2300	314.16@1600	105.5@1600	36.38@1600	EM EC SPL
4045HL282C	4045H	99.24@2300	80.80@2300	40.13@2300	303.84@1600	105.8@1600	36.38@1600	EM EC SPL

Engine Model Summary Form

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Attachment P. 2 of 2

Manufacturer: **John Deere Power Systems**
Engine category: **Nonroad CI**
EPA Engine Family: **9JDXL06.8106**
Mfr Family Name: **350HAD**
Process Code: **Running Change**

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
4045HRT83F	4045H	99.24@2200	82.90@2200	41.01@2200	317.85@1650	100.7@1650	37.26@1650	EM EC SPL, DFI, TC, CAC